

AMENDMENTS TO THE CLAIMS

1. (Currently Amended.) A tie-line flow control system comprising;

a computer having a central processor that executes instructions, a memory for storing ~~the~~ instructions to be executed, a means for communicating information; and

at least some of said instructions stored in the memory of the computer causing the central processor to:

receive request bid curves corresponding to at least one selected time interval for transactions from selling entities;

receive demand bid curves corresponding to at least one selected time interval for transactions from purchasing entities;

~~synchronize the request and demand bid curves at a selected time interval;
between synchronizing intervals, iterate information with the selling and purchasing entities to ensure clearing of supply and demand bids at a clearing time so that tie-line real and reactive power flows on the tie-lines interconnecting the selling entities are the same;~~

determine an optimum set of values for tie-line flows and charges for all regions served by said tie-line flow control system for the at least one selected time interval, where the determination of the optimum set of values is substantially accomplished by minimizing a mathematical expression relating at least inter-regional tie-line flows and a benefit related to the use of tie-line flows occurring in inter-regional transactions;

communicate to the selling and purchasing entities accepted tie-line flow quantities and corresponding prices at ~~the~~ a clearing time; and

ensure that all transactions clear as agreed upon in a previous ~~synchronized~~ at least one selected time interval.

2. (Currently Amended.) The system of claim 1, wherein the ~~clearing of supply and demand bids comprises application of a clearing algorithm minimizing,~~ determination of an optimum set of values is subject to a technical flow law based on conservation of flow of charge. ~~;~~ a sum of:

~~deviations between tie-line flow controlled by the selling entities and tie-line flow caused by all transactions;~~

~~a charge related to the price of tie-line flow controlled by the selling entities; and
a benefit related to the use of tie-line flows and paid by all transactions.~~

3. (Original) The system of claim 1, wherein the purchasing entities comprise inter-regional transactions.

4. (Original) The system of claim 1, wherein the selling entities comprise transmission providers, control areas, and independent system operators.

5. (Original) The system of claim 1, wherein the selling entities comprise control areas only.

6. (Currently Amended.) The system of claim 1 wherein the at least one selected time interval is selected from the group consisting of hourly, daily, weekly, monthly and/or seasonally.

7. (Original) The system of claim 1, whereby the computer facilitates implementation of transmission contracts for purchasing entities.

8. (Original) The system of claim 1, whereby the computer provides coordinated reliability management through non-uniform reliability provisions which are a function of the selling entities' regulatory and an optimal tariff structure.

9. (Currently Amended.) Method for tie-line flow control among selling entities by ~~[[an]]~~ a control entity facilitating implementation of transmission contracts for purchasing entities, said control entity executing the steps of:

receiving request bid curves corresponding to at least one selected time interval for transactions from selling entities;

receiving demand bid curves corresponding to at least one selected time interval for transactions from purchasing entities;

~~synchronizing the request and demand bid curves at a selected time interval;~~

~~between synchronizing times, iterating information with the selling and purchasing entities to ensure clearing of supply and demand bids at a clearing time so that tie-line real and~~

~~reactive power flows on the tie-lines interconnecting the selling entities are the same;~~

determining an optimum set of values for tie-line flows and charges for all regions served by said tie-line flow control system for the at least one selected time interval, where the determination of the optimum set of values is substantially accomplished by minimizing a mathematical expression relating at least inter-regional tie-line flows and a benefit related to the use of tie-line flows occurring in inter-regional transactions;

communicating to the selling and purchasing entities accepted tie-line flow quantities and corresponding prices at ~~the~~ a clearing time; and

ensuring that all transactions clear as agreed upon in a previous ~~synchronized~~ at least one selected time interval.

10. (Currently Amended.) The method of claim 9, wherein the ~~clearing of supply and demand bids comprises application of a clearing algorithm minimizing,~~ determination of an optimum set of values is subject to a technical flow law based on conservation of flow of charge. ~~, a sum of:~~

~~deviations between tie-line flow controlled by the selling entities and tie-line flow caused by all transactions;~~

~~the charge related to the price of tie-line flow controlled by the selling entities; and~~

~~the benefit related to the use of the tie-line flows and paid by all the transactions.~~

11. (Original) The method of claim 9, wherein the purchasing entities comprise inter-regional transactions.

12. (Original.) The method of claim 9, wherein the selling entities comprise transmission providers, control areas, and independent system operators.

13. (Original) The method of claim 9, wherein the selling entities comprise control areas only.

14. (Currently Amended) The method of claim 9, wherein the at least one selected time interval ~~may be~~ is selected from the following group: seconds, minutes, hourly hours, daily days, weekly weeks, monthly months, and/or seasonally seasons.

15. (Original) The method of claim **9**, further comprising the step of providing coordinated reliability management through non-uniform reliability provisions which are a function of the selling entities' regulatory and an optimal tariff structure.

16. (Canceled.)

17. (Canceled.)

18. (Canceled.)